

#607

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# 100 Sheets

3 in x 5 in

76 mm x 127 mm

No. 14011



70972 14011

Roaring Spring • Top Scholar—Roaring Spring, Pa. 16673

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825 Rua Recife  
(Adrianópolis)  
em frente ao restaurante  
Panorama.

Fone: 234-5095

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U.607

Adela Spada  
The ...  
The ...  
The ...

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1870-1871

Plant-animal comparison

Relation of evolution to taxonomy.

Nature of species

Evolutionary trends - vegetative

Evolutionary trends - floral

The fossil record.

Historical systems

Modern systems - comparison

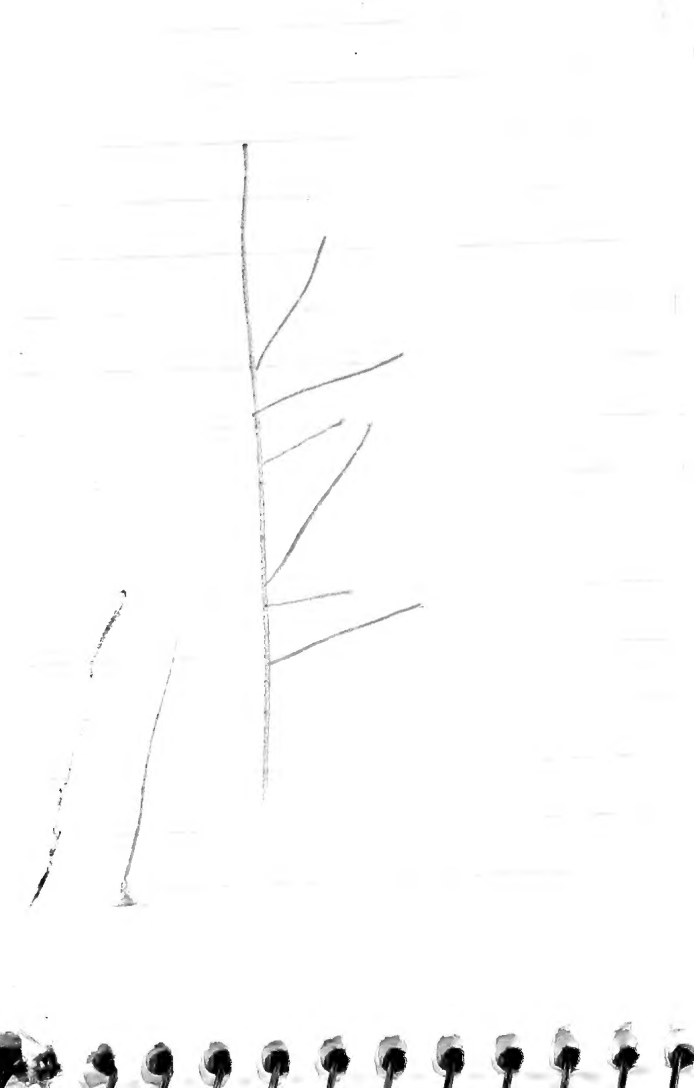
Magnoliaceae - Hamamelidaceae - Caryoph.

Dilleniaceae - Rosidae

Asteriaceae.

Monocots - origin, Alismatales

Monocots - other





1. The nature of taxonomy
2. Relationship - tax - evol.
3. Pl. spec.
4. Speciation
5. Evidence from spec.
- 6-7. Evol. spec. spec.
- 8-10. Evol. spec. spec.
11. Fossil
- 12-13. Hist. spec.
- 14-15. Comparison modern
16. Morphol.
17. Hema-4
18. Spec.
- 19-20. Spec.
- 21-31. Spec.
- 32-33. Spec.

24. origin 7 munc

25. Alismet - Dec.

26. Comm L

27. 2, n, b

28. L. 1, 1, 1

Ilse Walker  
Division of Bioecology  
INPA

C.P. 478

69.000 Manaus

(Post-Replication  
repair in Meiosis)

Carminda da Cruz  
Leandrin  
Departamento de Biologia  
Instituto de Biociências  
Rio Claro - SP.

Literature reference  
on fertilization in  
Gnetum

for - Maria Cristina  
de Carvalho

also:



Meyen or Symington  
to

on bus: Vila Buriti





p 47. Austrochloa  
See *Quercus* *laevis*  
1987 01905 17. 1983.

p. 164, *laevis* *laevis*

p 213 *Juglans*  
Fossil fruit in Upper  
Paleocene of England,  
Family in *laevis* *laevis*  
1987 01905 17. 1983.

p 250. *Achatocarpus*  
C-glycosyl flavonoid

p. 253. "of New World origin"  
laevis!

p 270 - *Mollinquin*  
C-glycosyl flavonoid,  
laevis *laevis*

p 356 - Boneh's paper,  
not listed in the book  
non-English in title

Chiranthodendraceae

[illegible]

4150

1153. *Sylvia atricapilla*  
ER. 14. 10. 1904. 1904.

1880. I have  
Flour from Sister Town  
1880.

p 511 - line 3 "mostly without"

p 517. *Cynomys*

*indica*. *Codiaceae*

p. 551 - *Phlogothamnium*

vegetals with scaly bark, in

perforation in bark

also - "*Periclymenum*,"

mostly paratropical.

p 551 - *Phlogothamnium*

add several *Abrophyllaceae*,

*Carpodaceae*, *Rousseaceae*,

Schmid puts *Platyspermum*

here, not in *Myrtaceae*

564. *Brachyotus*

1. 2 (1-2) per locule

575. *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus*

595. *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus*

*Brachyotus* *Brachyotus*

~~600~~ *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus* *Brachyotus*

*Brachyotus*

647- Epilobium 189 sp

653- Combretaceae.

Sometimes pollinated by  
birds or monkeys.

660- L.e., the ovule vascular  
supply is unusual.

669- Cornaceae.

Ovule ± hemitropous or  
campylotropous in the ovule,  
with the micropyle below the  
point of funicular attachment  
and toward the axis.

671- D. pentadentata.

Close to Flacourtia on  
pollen. See Lobreau-Callen, 1952

1.683 - Oloron.

Scorodocarpus smells of  
garlic, like Ben Stone

689. Loranthea.

Alismophilous and  
autotrophous

1.692. Loranthea.

"Loranthea" is a very typical 13

add syn. L. p. d. d. d. d.

723 - Loranthea p. d. d. d.

On the basis of the p. d. d.

L. p. d. d. d. d. d. d. d. d.

and the "L. p. d. d. d. d."

724. Loranthea p. d. d. d.

From the p. d. d. d.

732 - B. p. d. d. d.

R-type since it is a p. d.

762. Linaceae - linear,  
odd "or connate much of  
their length" - or just  
drop the word "linear"

765. Sapindaceae  
"linear" probably  
"pyramidal" or "triangular"  
and "connate" or "connate"  
should be

317. Pinaceae  
"linear" seeds from  
Eocene of England

326. Oxalidaceae  
linear or stipules small,  
and poorly vascularized.

923 - Verbenaceae

old small tree - 10m

Moist forest

934 - Hydrocotylaceae

Moist forest

935 - Hydrocotylaceae

Moist forest

936 - Hydrocotylaceae

Moist forest

937 - Hydrocotylaceae

Moist forest

938 - Hydrocotylaceae

Moist forest

939 - Hydrocotylaceae

Moist forest

940 - Hydrocotylaceae

Moist forest

941 - Hydrocotylaceae

Moist forest

942 - Hydrocotylaceae

Moist forest

943 - Hydrocotylaceae



1051- Line 4 up.

11011 constant 4 5 —

1053- Line 4 up.

potential or rising to 4.50/

~~1065-~~

1064- potamogetonaceae

Platanus, Compositae, Rubiaceae  
and hydrophilum

1066- Pediculariaceae

1067- Myosotis

Protoliriaceae

1068- Pandanus

casualty monobactams

Freycinetia reinckei

1204 - *L. aemulor*

*Polysiphonia* *lanceolata*

*Cladophora* *racemosa*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

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*Enteromorpha* *intertexta*

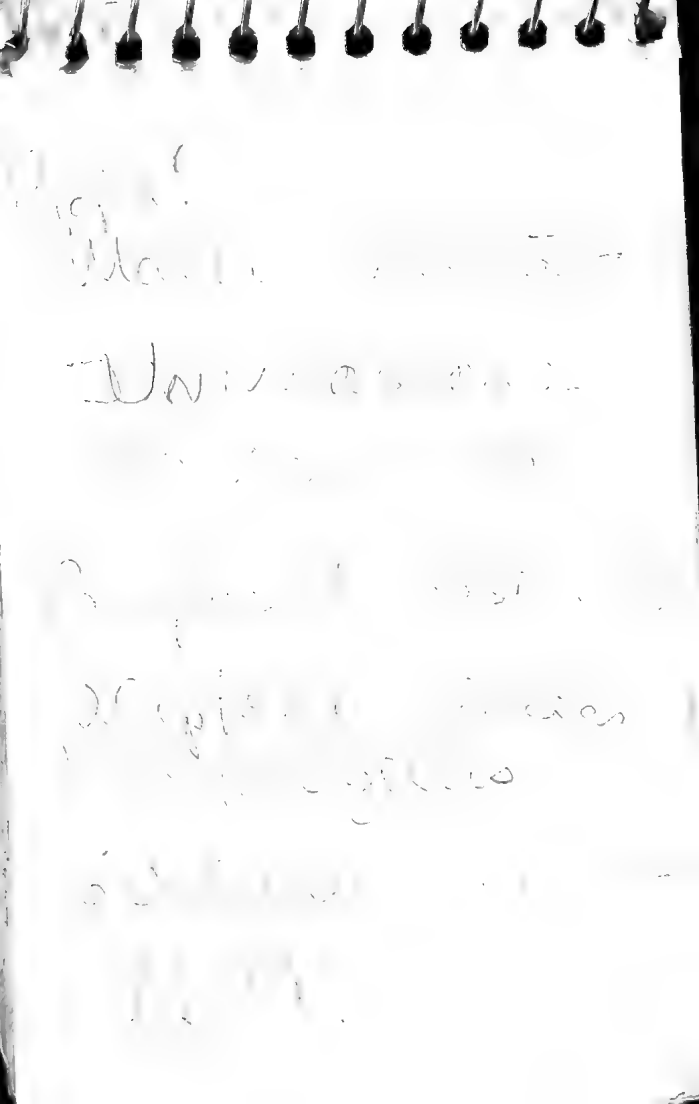
*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*

*Enteromorpha* *intertexta*



Bruce Nelson

234-5095

11884 - 11 May, 1985.

Washington Co., Idaho

Larrea desert, ca 11 km.

S. of St. George, and 5 km. north

Idaho-Utah state line

Elev. ca. 8000 m.

Rounded, bushy branching  
shrubs ca 3-6 dm. tall.

Flowers 16-20, bright

yellow at first, then

fade to creamy

- Cronquist and Eliza before

C. Haase

top of ...

(Harvey + A. Gray)

A. Gray

Artemisia ... 10-38.4

11885 T. & N. 11 May, 1985  
Washington Co., Utah  
Same place as 11884.

Small blue canyons,  
with ~~the~~ rather obscure  
to irregular lines.

With the numbers  
marked T. & N. were  
collected together  
with *Erigeron* L.  
Meese.

*Langloisia setosissima*  
(T. & G.) Greene

*Langloisia*

11886 C. J. Y. May, 1965  
Washington Co., Idaho.

Same place as 11884

Perennial with a deep scarious  
apparent taproot, but possibly  
decaying with older roots.

*Selinocarpus nevadensis*  
(Standley) Fowler & Turner

*Selinocarpus* (5)

C. H. N. 11587 - May, 85

Same place as 11584.

Flowers 17-22, pinkish  
to white. Heads nodding  
when young, erect at  
anthesis.

*Chaenactis macroantha* D.C. Eat.

*Chaenactis macroantha*

(10)



C + H. 11888 - 11 May, 1985

Mohave Co., Arizona.

Rocky calcareous slopes in  
the Larrea-Coleogyne Zone, ca 28.

to road km. south of St.

George, Utah.

Trwp 41 N., R. 12 W., near the

corner of sections 25, 26, 35, 36

Elev. about 1400m.

Plants strict up to 1 dm

tall, unpleasantly

aromatic. Corolla pale

blue-lavender.

*Phacelia palmieri* Torr.

48.7

*Phacelia palmieri* (8)

C 211 1889 11 May, 1905

Mohave Co, Arizona

Same place as 1888.

Flowers yellow

*Camissonia parryi* (S. Wats.)

Raven

✓

*Camissonia parryi* (10)

C. & H. 11890 - 11 May, 1985  
Mahane Co., Ind.

Same place as 11888

Petals 10, bright yellow  
inside, with anthers.

Mertensia

(M. E. - 11890 - 11 May 1985)

Mertensia (10)

C. H. 11891. 11 May 1955  
Mohave Co., Arizona  
Rocky, calcareous slopes in  
juniper zone,  
ca 36 road from ...  
Kearns, Utah. Twp 40N,  
R. 12W, S. 27. In ...  
seeds yellow. Apparently  
13 ... as  
fern as 10.

✓  
*Gaillardia parryi* Greene

*Gaillardia parryi*

C + N. 11892, 1141a, 1985

Montana Co. Early Calaveras shales

clay in pinyon-juniper

Zone, ca 38 ~~km~~ road km

at George, Twp 39 N,

12 W, S. 2, E. 1/4, 1/4 sec.

F. leaves yellow.

*Lesquerella arizonica*

S. 1/4 sec.

*Lesquerella* - (4)

C. & H. 11893 12 May, 1985

Mechan Co., Ariz

Calcareous granitic soil in  
Pinyon-juniper woodland

63 road km. south of  
Si. Elva, Uta to Tuzigoot

36 N. 13 W. S. 22.

Elev. ca. 1550 m.

Soils are calcareous, 1-2 m. deep  
mostly developed in situ, but  
some are older.

*Phacelia vallis-muris* J. Gray

*Phacelia vallis-muris* ✓

10

CNH 1180 - 12 May, 1984.

Maricopa Co., Arizona

Barren, rocky-gravelly soil  
in riparian area along the 64

road, 1 km. south of St. George,

Ariz. Temp 38°C, R. 13 W., S. 22,

Elev. ca 1550 m.

Flowers bluish-white or  
pale blue-lavender.

*Dichroanthus furcatus*  
(Lam.) Benth.

*Dichroanthus pulchellus* (2)

C. + H. 11895 12 May, 1985

Same place as 11 <sup>894</sup>~~894~~.

Rays 5-8, white.

*Layia glandulosa* (Hook.) Hook. &  
Arn.

*Layia glandulosa* (5)



C. N. 11896 12 May, 1935

Yuma Co., Arizona

Calcareous gravelly sandy  
soil in crevices in ~~rock~~  
about 65

about 1/2 mile S. of  
Yuma, Sta. 6, 7 up 33 N.,  
about 150 ft. ca. 150 m.

... ..  
... ..  
... ..

*Penstemon pachyphyllus*

A. Gray ex Rydb.

var. *congestus* (E. Jones) N. Holmgren

*Penstemon pachyphyllus* (10)

C. L. H. 11897 Same  
place as 11396.

Petals caducous,  
ascending, not spreading,  
very pale, nearly white  
with some more evident  
blue lines at the base.

*Linum lewisii* Pursh

*Linum lewisii* ✓

C. H. 11898 - *Malva* sp. only  
12 May, 1985. Open, sunnier  
meadowland on rocky calcareous  
substrate, Road Canyon,  
ca 68 road km. south of  
St. George, Utah.

7 sep. 38 H, R, 13W, S. 21  
Elev. ca 4500 m. Broadly  
ovoid shrubs 4-8 dm. tall.  
Bark yellow. Rays 4-11,  
of the irregularly spaced,  
about 1 cm. long.

*Haplopappus* var. *interior* DC.  
var. *interior* (Coville) M. E. Jones

*Haplopappus* (7)

C4411899-12 May, 1985

Marathon Co., Arizona

Juniperus - Coleo type -  
Chrysothamnus

the mouth of Road  
 Canyon, on rocky,  
calcareous substrate,

ca 69 road km south  
of the Arizona state.

Twp 38 N., R. 13 W., S. 20

elev 1300 + m. Shrubs 1-1.5

cm tall, in small

*Eriodictyon angustifolium* Nutt.

*Eriodictyon*

10

C + N. 11900 - 12 May, 1985

Atchafalaya, Ariz. In very sandy  
soil in open ~~pine~~ piñon-  
juniper shrub community

ca 1782 road km.

S. of St. George, Utah. Trop.

38°N, R. 14W., S. 29.

Elev. ca 1300 m.

Flowers bright yellow,  
23-34.

*Hymenopappus filifolius* Hook.  
var. *tomentosus* (Rydb.) Turner

23-34

6572.1

*Hymenopappus* (10)

# C 111 11701 12 May, 1965  
Madison Co., Ark.

Blackoak community  
along Little River  
Wash, north branch,  
Madison Co., Ark.

at least 100 plants  
Twp. 38 N., R. 15  
E. 5 SE 1/4, ca 1100 ft.

Single or small, taprooted,  
glabrous, apparently  
biennial plants. Flowers  
white on some plants,  
pink-lavender on others.

*Cirsium neomexicanum* A. Gray,  
sens. lat. C. L. C.

Cirsium 5, incl 1 plant  
1, 1 about 2

Aug. 1, 1985

Michaux Co., Ky.

Rocky, calcareous open  
slopes with sage brush and  
scattered hickory and  
cucumber. Twp. 38 N.,

Range 11 W. S. 7. Elev.  
just under 1600 m. Plants

mostly single stemmed,  
short. First appearing  
biennial, but no new  
seedlings. Heads

yellowish green. Heads  
mm or 2, at first spreading, then

ca. 52 road. 1 km. south  
of St. George, Utah

*Hymenoxys cooperi* (A. Gray) Cockerell

*H. cooperi*

*Hymenoxys cooperi* (9)

reflexed.

Cronquist 11903

13 May, 1985. Mohave Co.,  
Ariz. Same place as  
11902. Plants perennial,  
herbaceous, rooted, mostly  
single-stemmed. Flowers  
blue except for the  
white or nearly white  
upper petals.

*Delphinium parishii* A. Gray

*Delphinium* (5)



11904 - 13 May, 1985

Mo-have Co, Arizona

Same place as 11902. Petals  
sticky, glutinous. Petals  
with a long claw and  
short, purplish-brown,  
incurved. Lobed & blade  
barely surpassing the  
strongly 10-ribbed  
calyx.

*Silene antirrhina* L.

Campophyll. (7)

11935 - 13 May, 1985

W. Mason Co., Arizona

Rocky, volcanic soil in  
juniper-juniper wood-

land in a dry wash

at the bottom of a slope

at the bottom of base

of Mt. Tumbull.

Twp. 35 N., R. 8 W., S. 33

Elev. ca. 2000m. Plants

biennial, single stemmed  
or seldom with 2 or 3 stems.

Herbage spreading, hairy,  
at the base, stems glabrous  
and glaucous. Flowers  
lavender.

*Arabis gracilipes* Greene

2 inches

(10)

11906. 14 May, 1989

Mohave Co., Arizona,

North facing volcanic  
cliffs in Toroweap Valley,  
just to the southwest  
of Hualapai's throne, ca  
110 road south of  
Fredonia. Twp 33 N.,  
R. 7 W., S. 31. Elev.

ca 1250 m Intricately  
branched, rounded shrub 2-3  
m. tall, densely shrubby,  
some of last year's flowering  
branches still persistent

*Cryptantha racemosa* (S. Wats.)  
Greene

*Cryptantha*

11907-14 May, 1985

Maricopa Co., Arizona.

Among volcanic rocks just  
to the southwest of  
Vulcano Thron, ca 110 road

km. south of Fredonia  
T 33 N R 7 W S 31 E  
Elev. ca 1250m. Freely

growing, bushy shrubs

3-4 dm. tall. Leaves shiny

green. Flowers ca. 45-50

per head, faintly greenish

or ochraceous, or

the involucre slightly

~~white~~ antherogamous.

*Brickellia atractyloides* A. Gray

*Brickellia* (8)

11908. 14 May, 1985

Same place as 11987.

Freely branched broad leaved  
shrub 2-6 dm tall

Flowers nearly white,  
but pinkish outside  
when young.

*Eriogonum fasciculatum* Benth.  
var. *polifolium* (Benth.) T. & G.

*Eriogonum* (10)

11909 - 14 May 1934

Michaux Co., Ariz.,

With sagebrush in  
sandy soil shortly  
north of ...

Thru ... 106 ...

... Fredonia

Twp. 33 N., R. 7 W., S. 20

... Herbage

green leaves yellow ...

(2) 3-4 rays.

*Psilostrophe sparsiflora*

(A. Gray) A. Nels.

~~Psilostrophe~~ *Psilostrophe* ...



1910 14 May, 1985 Mohave Co.,  
Arizona. Barren old clay  
slopes 7 km southwest  
Fredonia, Twp. 41 N., R.  
3 W., ca. S. 35. Elev. 1400 m.

Corolla limb fully 1 cm  
wide, bright white, with  
large, bright yellow  
fimbriae

*Cryptantha semiglobosa*  
Barneby

*Cryptantha semiglobosa* 519.1  
314.7  
10.7

11911- 15 May, 1985

MoHAVE Co., Arizona.

With scattered piñon and  
juniper on east-facing  
red sand-clay slopes

ca 14 km. southeast of  
Colorado City (Short Creek)

Top. 40 N., R. 6 W., S. 12, Elev. ca. 1550 m.

Rays 15-21, often 16-18,

6-9 mm long, white on  
top, tinted with pink  
- lavender beneath. Disk  
yellow.

*Townsendia* inaequalis Nutt.

*Townsendia*

(10)



11912 - 15 May, 1985  
Same place as 11911.

± flowers yellow,  
16-24 per head.

*Hymenopappus filifolius* Hook.  
var. *tomentosus* (Rydb.) Turner

*Hymenopappus* (3) 1624

11913 - May '89

Same place as 11911.

Herbage glaucous.

Flowers crimson.

purple, with some  
variation, retaining the  
original color in drying.

*Penstemon utahensis* Eastw.

Penstemon (3)

11914. 15 May, 1985.

Same place as 11911,

Flowers blue, the  
banner with a white  
spot.

*Lupinus pusillus* Pursh

*Lupinus*

(6)

11915 - 16 May, 1985

Washington Co., Utah.

On rocky, calcareous  
substrate (perhaps juniper  
mainly pinon) woodland  
in the Grand Staircase.

May 23. In a nest  
of St. George, up 425 ft.  
16 W., S. 22-23. 1500 m.

Plant about 1 m. tall, perhaps  
a shrub. Stems  
solitary, or rarely  
in pairs. Yellow.

*Senecio multilobatus* T. & G.

*Senecio*

11916 - 16 May, 1985  
Washington Co., Idaho  
Rocky, calcareous ridge  
in pinon-juniper woodland  
in the Bruneau Mts.  
ca. 23 km. airline west  
of St. George, Twp. 42 S.,  
R. 18 W., S 22-23. Elev.  
1500 m. Plants characteristi-  
cally with this year's tuft  
of basal leaves arising  
above and between the  
several ascending flower-  
ing stems.

*Arabis* sp. S. Wats.

*Arabis* (10)

11917 - 16 May, 1985  
Washington Co., Utah,  
Rocky, calcareous ridge  
in piñon-juniper  
(mainly piñon) woodland  
in the Grand Canyon Mts.,  
ca. 23 mi. S. of  
west of St. George.  
Elev. 1500 m.  
Twp 42S, R. 18W., S. 22-23

*Cryptantha eriposa* Higgins

6494.5

(7)

11918 - 16 May, 1983  
Washington Co., Utah  
dry, calcareous soil in  
pinyon-juniper woodland  
in the Granddome Mts.,  
22.3 km. airline west  
of Ft. Hargis. Twp. 42N,  
R. 18W, S. 22. Elev. 1500m.

Only 4 plants seen. Leaf  
solitary, terete, withering -  
Petals white, with a  
reddish-brown to greenish  
midstripe on the back.  
Bulb coats virtually  
smooth at 10x.

*Allium nevadense* S. Wats.  
var. *cristatum* (S. Wats.) Ownbey  
*Allium nevadense* ①

11919 - 12 Nov. 1985

Washington Co., Utah.

~~the~~ Branchy right,  
ferry along old high-  
way from St. George to  
Las Vegas, <sup>southwest slope of the</sup> Seaverdam  
Mts., on a 24 km. airline  
west of St. George.

Twp. 12 S., R. 18 W., S. 34.

Elev. 1300 m. Just at the  
upper limit of Joshua zone.  
Perennial, mat forming  
perennial, branching  
herbaceous. Appendages  
white. Stipules connate,  
papery, white.  
*Euphorbia albomarginata* T. & G.

*Euphorbia*





11920 - 16 May, 1935  
Washington Co., Idaho  
In a valley, marsh along  
old St. George Indian  
highway, just at the upper  
edge of the lacuna zone,  
southwest slope of the  
Beaverdam Mts., ca. 24 km.  
airline west of St. George.  
Twp. 42 S., R. 18 W., S. 34.  
Elev. 1300 m. Plants 4-8 dm.  
tall, shrubby toward  
the base. Heads yellow, rays  
mostly ca 13.

*Senecio douglasii* DC.

var. *mondensis* (Greene)

— spec.

*Senecio doug. mond* (6)

11921 - 17 May, 1985

Clark Co., Nevada,

Gravelly, stony bajada  
along the west side of  
the Sheep mts., ca 70  
road km.

north of Las Vegas.

Joshua - creosote zone.  
Elev. ca 1400 m. Flowers  
yellow.

Twp 15 S., R. 59 E., S. 17

*Camissonia brevipes*

(A Gray) Raven

66560

*Camissonia brevipes* (11)

11922. 12 May, 1985.

Black Co., Nevada. Same  
place as 11921.

Leaves very glaucous.

Flowers ca. 7-20 per head,  
white or nearly so at  
first, turning red  
in age.

*Atrichoseris platyphlla*

A. Gray

✓

7.7  
Black Co., Nevada

(11)

11923 17 May 1985.

Clark Co., Nevada.

Same place as 11921.

Stems 1-fer. Plants  
short-lived, but some-  
times flowering more  
than once. Corolla  
relatively large.  
Fertile.

*Cryptantha virginensis*  
(M.E. Jones) Payson

*Cryptantha virginensis* (11)

11924 - 17 May, 1985.

Clark Co., Nevada.

Same place as 11921.

*Corolla* ~~with~~ blue-  
-lavender, with  
inconspicuous darker  
guide-lines.

*Langloisia setosissima*

(T. & G.) Greene

*Langloisia setos.* (5)

11925 - 17 May, 1985  
~~Clark~~ Clark Co., Nevada.

Same place as 11921.

Flowers white, ca. 35-75  
per head.

*Chaenactis carphoclinia*  
A. Gray

*Chaenactis*

7

11926 12 May, 1985

Yark 3, New Lane place  
as 11921. Plants prostrate  
and nearly so; flowering  
spikes from leaf  
axils. Corolla  
pink-purple with a  
yellow tube.

*Nama demissum* A. Gray

*Nama demissum*

(6)

11927 17 May, 1985

Plant Co. Nevada.

Same place as 11921. Plants  
mexican. Corolla with  
blue-lavender limb  
and yellow tube.

Seeds cross-corrugated.

*Phacelia Sonnetii* Torr.

*Phacelia Sonnetii* (3)



13 May, 1970

2000 ft.

About limestone cliffs  
in ~~the~~ Sedman Canyon  
ca 2 km. above the  
mouth. West side of  
the Sheep Mts. Pinyon-  
juniper? and *E. laevis* ca 2000,  
ca 50 km. airline north  
(and a bit west) of Las Vegas.  
Bark with a deep, warty texture.  
Plants ca 1.5 m. tall.

Twp. 15 S., R. 60 E., ca. S, 20-21  
maturing fruits becoming  
maroon-purple.

*Rhus aromatica* Aiton  
var. *simplicifolia* (Greene) Cronq.

Simpl

11929 - 18 May, 1985  
Clark Co., Nev.

Talus about the base of  
north facing limestone  
cliffs in Deadman  
Canyon ca 15 km from  
the mouth. West side  
of the Sheep Mts., in  
the piñon-juniper zone.  
Ca 50 km. aerol. north  
(and elevated) from Vegas

Trp. 15 S. R 60 E. ca 20-21

Elev ca 2000 m. Shrub ca 1 m

tall. Petals white; hypanth-  
ium yellowish within

Carpel solitary, asymmetrical

*Physocarpus alternans* (M. E. Jones)  
J. T. Howell

For *Physocarpus* *alternans*

(11)

11733. 18 May, 1985, Birch  
Co., Nev. Trapped in a series  
of small, facing limestone  
bluffs. Review in #11725.

*Cheilanthes feei* Moore

fern

(3)

11931, 18 May, 1985

Clark Co., Nev. Crevices of  
north-facing limestone  
cliffs at the mouth of  
Deadman Canyon, west side  
of the Sheep Mts., at the  
upper edge of the Joshua  
Zone. Twp. 15S, R. 60E,

S. 19-20. Elev. 1800 m.

Flowers with pale  
yellow tube and spreading  
white lobes. Plants  
somewhat mesphitic

*Phacelia perityloides* Cov.  
var. *jaegeri* Wats.

*Phacelia*

(2)

11932 - 18 May, 1985

Clark Co., Nevada

In the Joshua Grove at the  
top of the Mojave along  
the west side of the Spring  
Mtn., at the mouth of  
Cedarvale Canyon, ca 50 km  
airline north (and a little  
west) of Las Vegas.

Twp. 15 S., R. 60 E., Elev.  
ca 1800 m. Shrub ca 1 m.  
tall. Flowers 5-7,  
bright yellow. T. rays  
white, leaved yellow. S. 18

*Tetradymia axillaris* A. N. S.

var. *longispina* (M. E. Jones)

Stromer

*Tetradymia longispina*

(5)

11933 - 18 May, 1985

Clark Co., Nevada.

Gravelly bajada at the  
mouth of Spring Lake. Sheepshead  
Shrub, *Artemisia tridentata*, in  
flower. Elevation approx. ca.  
1000 m. Soil is sandy & light  
brown.

Las Vegas, Temp. 15°C,  
R. 6.0 <sup>5.18</sup> in. Elevation 1700 m.

Rays 20-40, 1-2 cm long,  
mostly rather light  
blue. Inward, but on  
~~a few~~ perianths white.

*Machaeranthera tortifolia* (T. & G.)

Cronq. & Keck

appr. var. *imberbis* Cronq.

*Machaer*

*tortifolia*

9

11934 - 18 May, 1985

Clark Co., Nevada. About  
vesicular limestone cliffs  
and ledges at the east base  
of the Desert Range ca 70  
km. airline north (and  
a bit west) of Las Vegas,  
and ca 6 km. by road  
south of Sheep Pass.

Twp. 13 S., R. 60 E., S. 18-19.

Elev. ca 1350 m. Heavy-  
scented perennial from a  
woody base. Flowers dull  
whitish.

*Nicotiana trigonophylla* Dunal  
var. *trigonophylla*

*Nicotiana* (7) *trigonophylla*

11935 18 May 1985

Clark Co., Nevada.

On s.s. - facing

1. Circular limestone

cliff - 100 ft high

- in flower

Flowers have white rounded

lanceolate lobes 1-2.5 cm

long. Corolla bright

pink-purple.

*Penstemon* *potamo-*

*Brandeggee*

*P. Brandeggee*

*potamo-*

(11)



11936 - May, 1985 -  
Lincoln Co., Idaho  
Sivale in a valley at  
the mouth of the  
Shoshone, near the  
mouth of a large playa,  
50 km south of Salmon.

27 km north of  
Sheep River.

and 27 km north of  
Sheep River.

Twp. 11S., R 61E., S. 6-7.

*Astragalus sabulosus* A. Gray  
det. R. C. Barneby

*Astragalus* : ?

22 May, 1985 Clark Co., Nev  
# 11937.

Travelly Larrea  
desert ca 65 km south  
of Alamo, and 2 km. south  
of Lincoln Co. line.  
750-800 m. Unusually  
branched, rounded soft  
shrubs mostly 3-4 dm  
tall (H. G. Gentry,  
R. A. S.). Stems  
cottony-white, leaves green.  
Twp. 12S., R. 63E., S. 7

*Psilostrophe cooperi* (A. Gray)  
Greene

*Psilostrophe* *cooperi* (8)

11938 22 May, 1985

Same place as '93),

Intricately branched,  
woody-based, taprooted  
perennials mostly 2-4 dm  
tall. Flowers 5-6,  
pink-lavender.

*Stephanomeria pauciflora*  
(Torrey) Nutt.

*Stephanomeria*



11939 - 234 May, 1985

Washington Co., Utah

in a distance of 1000 m.

along the southeast base  
of the Pine Valley Mts.,

ca 5 km. by road north-

west of ~~Lead~~ Leads, Twp.

40 S., R. 10 E., Twp. 35-36.

Elev. 10,000 ft. Boon.

Flowers 25-45, lemon-yellow.

Leaves bright green.

*Hymenopappus filifolius* Hook.

var. *megacephalus* Turner

*Hymenopappus*

(10)

fin.

11940 23 May, 1985  
Washington Co., Utah.

Same place as 11939.

Rays 28-40, bright  
lavender, ca 1.5+ cm long

*Erigeron utahensis* A. Gray  
var. *utahensis*

*Erigeron utahensis* (7)

11941 24 May, 1985  
Cronquist & Elizabeth C  
Neese - Washington  
Co., Utah. Sandy soil  
overlying basaltic  
deposits, Coleogyne  
zone, ca 15 road km  
north of Ft. Harts.  
Twp. 41 S., R 16 W., S 15.

Elev 1200 m.

Flowers pinkish.

*Eriogonum deflexum* Torr.

*Eriogonum* (7)

11942 - 24 May 1985  
Cronquist and Elizabeth C.  
Hess. Washington Co., Utah

Pinyon-juniper woodland  
ca 48 road km north of  
H. Hesperus 16 road km.  
south of Enterprise.

Twp. 38S., R 16W., S. 22

Elev. ca 1750 m.

Sandstone substrate.

Leaves accrescent. Flowers  
pink, same with  
6 corolla lobes. Plants  
forming loose mats.

*Phlox griseola* Wherry

Fls 26-30

*Phlox griseola* 1 223.2 (5)

11943 C. & H.

24 May, 1985. Washington  
Co., Utah. Antituffaceous  
substrate in canyon-juniper  
zone just south of Shosh  
Creek, ca 16 road km. west  
of Enterprise. Twp. 37S;  
R. 18W., S. 5

Elev. ca 1700 m.

Heads yellow. Rays 7-14

*Senecio multiflorus* T. & G.

243.5

*Senecio*

(4)



11944 C + A. 24 May, 1985

Washington Co., Utah

Moist sedge-meadow along  
Shoal Creek, ca. 18 km. west  
of Enterprise Truss. 375., R.  
18 W., S, 6

Elev. ca. 1700 m.

Plants abundant. Flowers  
pink-purple with yellow  
filament-like

*Dodecatheon pauciflorum*  
(Durand) Greene

*Dodecatheon*

(6)

244.6

24 May 1945

C. J. N. 11945, Washington

Co. Utah. On buffaceous  
substrate in open pinon-  
juniper woodland, shortly  
south of Shoal Creek, ca 17+  
airline km. west of Enterprise.  
Twp. 37 S., R 19 W, S. 1.

Elev. ca. 1800 m.

Plants densely tufted.

Leaves pungent. Flowers  
white to ~~to~~ pink.

*Phlox tumulosa* ✓

*Phlox tumulosa* (2)

C+H 11946 20 May, 1985

Washington Co., Utah

Gravelly soil on gentle  
sagebrush slope ca 10 km  
east-northeast of Enterprise,  
near the Iron Co. line.

Twp. 37 S., R. 16 W., S. 1 or 2.

Elev. ca 1700 m.

Stems several from a  
taproot and somewhat  
branched caudex,  
~~largely ascending~~  
ascending.

*Astragalus eremiticus*  
Sheldon

det R.C. Barneby

*Astragalus* (8)

11947 25 May, 1985  
Washington Co., Utah

Rather heavy clay soil in a  
Draw in *Juniperus*  
*scopulorum* woodland  
along the North Fork  
of the Virgin River, ca  
25 km by road south of  
Hatch, N.M. Twp 39S., R. 9  
W., S. 10. Elev ca. 1850 m.

Stems numerous, ascending,  
~~erect~~ an often woody  
base. Flowers blue-purple.

*Penstemon intricatus* A. Gray  
var. *strictus* A. Gray

*Penstemon intricatus*

11948 - 25 May, 1985  
Washington Co., Utah.

Oak woodland ca 35 km  
dry road south of Navajo  
Lake. Twp. 39S., R 9W.,  
ca S. 34.

Elev. - ca 2000 m.

Perennial with thick fleshy  
attached tuberous roots.

Flowers blue, the upper  
petals white with blue  
veins.

*Delphinium nuttallianum* Pritzel

*Delphinium* (5) 3011

11949 - 25 May, 1985  
Washington Co., Utah.

Same Place as 11948.

Perennial from slender  
erect rhizomes. Flowers  
white. The banner with  
an irregular *anthocyanic*  
gradation.

*Lathyrus laetivirens*  
Greene

*Lathyrus* (5)

11950-26 May, 1985

Mohave Co., Ariz. ~~Roller~~

Rolling, gravelly sagebrush  
land in Wolf Hole Valley,  
ca 5000 m. south of  
Ed. George, Utah

Twp 36 N. R. 12 W. S. 2  
Elev. ca 1600 m.

Perennial, spreading by  
creeping roots. Heads yellow.  
Ray 8, or sometimes up  
to 13, mostly 1-1.5 (to nearly  
2) cm long.

*Thelesperma marginatum*  
A Gray  
var. *marginatum*

*Thelesperma* 7488.1  
(6)

11951 - 26 May, 1985

Same place as 11950.

Taprooted perennial.

Ray white; a leaf, tinted  
with brownish-pink  
beneath, from ca 13 to  
sometimes as many as 22.

*Townsendia incana* Nutt.

*Townsendia*

(4)



11952-25 May, 1985

Same place as 11950

Taperrooted perennial.  
Herbage strongly  
glaucous. Flowers  
purplish.

*Caulanthus crassifolia* (Torr.)  
Wats.

*Caulanthus* (4)

11953 - 26 May, 1985

Mohave Co., Arizona

Gravelly, somewhat sandy  
soil in open juniper  
woodland ca 56 road

Hwy. south of St. George,  
Utah. Twp 38 N., R. 12 W.,

S. 20. Elev. ca. 1600 m.

Flowers white, with  
pale yellowish bracts.

*Cryptantha cinerea* (Greene)  
Cronq.

*an. abortiva* (Greene) Cronq.

*Cryptantha cinerea* v. *abortiva* (5)

92.7

11954 26 May, 1985 Mohave  
Co., Arizona - Pinus juniper  
usadland in Mexican Cliffs  
region on the west front  
of the Unkar Plateau,  
ca. 100 km south of  
Flagstaff, AZ and ca 14  
km. S.W. of Mt.  
Trumbull. Twp. 35 N.,  
R. 9 W., S. 29. Elev. ca 1900

m. Plants mostly single-  
stemmed and apparently biennial,  
sometimes few-stemmed and  
short-lived perennial; no separate  
rosettes seen. Heads yellow.  
Ray fl. 5-7 cm long, 8-14, often  
13 in number.

*Hymenoxys cooperi* (A. Gray) Cockerell  
var. *canescens* (D.C. Eaton) K. Parker

*Hymenoxys*

(7)

530.3

11955. 26 May, 1985  
Mohave Co., Ariz. Same  
place as 11954. Flowers  
mostly 24-49, yellow.

*Hymenopappus filifolius* Hook.  
var. *lugens* (Greene) Jepson

*Hymenopappus*

(10)

11956 - 26 May, 1985  
Mohave Co., Ariz. Same place

as 11954. Flowers  
blue-purple

*Penstemon thompsoniae*  
(A. Gray) Rydb.

*Penstemon* (7)

11957, 27 May, 1985

Mohave Co., Arizona

With sagebrush in rocky,  
volcanic soil at the edges of  
pinyon-juniper woodland,  
ca 12 road km. west of Nixon  
Springs campground at the  
west base of Mt. Trumbull,  
and ca 100 road km. south  
of Mt. George, Utah. Twp.

35 N., R. 14 W., S. 21 E. Elev.

ca. 1950 m. Stems 1-several.

Herbage glaucous. Flowers  
rather light blue, varying  
to lavender or lavender purple.

*Penstemon pachyphyllus* A. Gray  
ex R. & B.  
var. *condensus* (M. E. Jones) M. E. Jones

*Penstemon* (10) 549.8

11958 - 27 May, 1985

Kane Co., Utah. In deep sand,  
Coral Pink Sand Dunes.

Twp. 43 S., R. 4 W., S. 27

Elev. ca. 1850 m.

Plants extensively  
creeping beneath the  
surface. Banner white,  
veins lavender-tinged,  
hel dark purple.

*Psoralea lanceolata* Pursh

var. *purshii* (Vail) Piper

*Psoralea*

(9)

11959 - 27 May, 1985.

Same place as 11958.

Plants extensively  
creeping below the  
surface. Flowers  
rather dull blue -  
lavender, the banner  
with a large, nearly  
white area below the  
middle.

*Sophora stenophylla* A. Gray

*Sophora* (8)



11960 - 30 May, 1985  
Millard Co., Utah. Shaly  
limestone slopes in the  
sagebrush - juniper zone  
at the pass in the ~~east~~  
Confusion Range along  
U.S. Highway 6, ca 19<sup>st</sup>  
road km. west of Delta,  
and ca. 35 road km. east of  
the Nevada line. Elev.  
ca. 1900m. Only one  
plant seen. Flowers  
<sup>lavender -</sup>  
in purple, not blue, turning  
dark blue-violet in the pres.

*Penstemon confusus* M.E. Jones

*Penstemon* (1) 87.1

11961 - 30 May, 1985  
Milledale Co., Utah. Same  
place as 11960. Heads discoid,  
yellow. all plants of  
this small size.

*Machaeranthera grindelioides*  
(Nutt.) Shinn.  
var. *depressa* (Maguire) Cronq.  
+ Keck

*M. grindel. depressa* (5)

11962 - 30 May, 1955.

Midland Co., Utah. Same  
place as 11960.

Stems few, erect or  
ascending. Flowers  
small, the limb ca 4-5  
~~mm~~ mm wide, white  
with yellow formies.

*Cryptantha rugulosa* Payson.  
Payson.

Growing with 11963, *S. compacta*,  
and appearing only distal,  
but lower, less extensively per  
ial, blooming later, and  
with longer styles and contrastly  
different.

Jeorge Crompton (5)

11963 - 30 May, 1985  
~~S~~ Millard Co., Utah.  
Same place as 11960.

Plants dwarf, with  
erect, tufted stems and  
small ~~sa~~ flowers,  
the corolla - limb ca 4-5  
~~mm~~ mm wide,  
white with yellow  
fornices.

*Cryptantha compacta* Higgins

Dwarf Crypt. (10)

11964-30 May, 1985. Millard  
Co., Utah. With scattered  
junipers in sandy, gravelly  
soil at the west base of the  
Confusion Range, ca. 7  
road km west of the  
Pass along U.S. Highway 6,  
ca 28 road km east of the  
Nevada state line, and  
ca 112 road km west of  
Delta.

Elev. ca. 1700 m.  
Flowers bright yellow.

*Linum subteres* (Trel.)  
H. Winkler

*Linum subteres* (10) 91.8

1 11965-30 May, 1985

White Pine Co., Nev.

Rocky, gravelly, calcareous soil with piñon and juniper at Sacramento Pass, shortly north of Wheeler Peak.

Elev. just under 2200m.  
Herbage glaucous.  
Flowers bright blue.

*Penstemon pachyphyllus* A. Gray  
Kyd's.

var. *congestus* (M. E. Jones) N. Holmgren

116.8

*Penstemon Pachyph.* (5)

11966 - 30 May, 1985

Same place as 11965.

Herbage somewhat

glaucous. ~~Flowers~~

~~lavender~~  
n ~~purple, not blue.~~ blue

Stems 1-several

Flowers lavender-purple (not  
blue) in life, turning  
blue-violet in the press.

*Penstemon confusus* M.E. Jones

*Penstemon* cf 11966 (16)

11967-30 May, 1985

Same place as 11965.

Banner pale lavender,  
veins whitish, keel  
purplish.

*Astragalus calycosus* Torr.  
det. R. C. Barneby

5

*Astragalus*



11963 31 May, 1988

Ely Co., Nevada.

On rocky, volcanic substrate in piñon-juniper woodland at Crescent Summit, ca 60 km. southwest of Ely. Twp. 11 N., R. 6 E., S. 13.

Elev. just over 2100 m. Plants loosely tufted, but apparently also spreading below ground. Petals white, deeply lobed. Stamens 10.

*Arenaria kingii* Greene

/ M. E. Jones

*Arenaria* ⑧

11969 - 31 May, 1981  
Nye Co., Nev. Same  
place as 11968. Plants  
tending to grow in  
rock crevices, even  
forming Petriophyton-like  
mats, filaments pale  
antherogenic.

Trochilium (2) 317,55

11970. 31 May, 1981

The Cañon, with a slight  
or gradually ascending gentle  
slope below the mouth  
of Tracy Canyon, just to  
the west of the Leach

Range. Twp. 64, R. 54 E.,  
S. 24. Elev. ca. 1500 m.

Flowers dull purplish.  
Leaves glaucous.

*Asclepias*

Born by

*Asclepias* 7. 5100

11971 - 31 May, 1955

Quinn, Nevada, Stony  
(limestone) south slope,

with sagebrush, along

Spring Wash, on

the west side of the Quinn

Range - Quinn Range

junction. Twp 5 N., R.

56 E., S 23. Elev. 1650 m.

Plants 3-12 dm tall.

mostly single stemmed,

apparently biennial

with only (6) rather

small heads. Flowers white.

*Cirsium neomexicanum* A. Gray,

sens. lat.

*Cirsium*

(7)

11972 - 1 June, 1985  
Nye Co., Nev., Rocky,  
sandy, rhyolitic south-  
west slope in piñon-  
juniper woodland at Cherry  
Creek Forest Camp,  
Quinn Canyon Mts.  
Twp. 4 N., R. 56 E., S. 36  
Elev. ca 2100 m. Plants  
lang. - lived perennial,  
typically with several  
or many lat, ascending  
or nearly prostrate stems,  
or some plants single-  
stemmed and more or less  
erect. Corolla. Lvs  
small ca. 6 mm wide,  
white with yellow forer.

11973 - contd.

Buttlets strongly  
roughened on both sides,  
the margins not in  
contact, the broad  
base somewhat produced  
with serrate inner  
margins.

*Cryptantha flavoculata*  
(A. Nels.) Payson

*Cryptantha flavoculata* 10

11973 - 1 June, 1989. Hye  
Co., Nev. ~~Same~~ Same place  
as 11972. Leaves gray-green.  
Only one plant seen.

*Lomatium parryi* (S. Wats.)  
J. F. Macbride

*Lomatium* (?)

11974 - 1 June, 1985, Tye  
Co., Ill., Iroquois, rhyolitic  
soil in pinon - woodland  
about and above the  
Cherry Creek Forest Camp  
in the Quinn Canyon  
Twp. 4 N., R. 56 E.,  
S. 36. Elev. ca. 2100 m.  
Stems low below, very  
loosely clustered on a  
taproot. Branches like  
lavender, pinkish, the  
leaves white, open in the  
evening and at night,  
closing in the morning sun.  
*Abronia fragrans* Nutt.

*Abronia* 5



11975 1 June, 1985.

Alye Co., Nevada. In  
loose, sandy soil associ-  
ated with rhyolite,  
with scattered juniper,  
juniper, and sagebrush,  
along the southeast side  
of the Quinn Canyon Mts.  
Twp. 3N., R. 56E., S. 25-36.  
Elev. 2000m.

Plants prostrate, freely  
branched, forming small  
to rather large mats,  
extensively creeping below-  
ground by lateral roots.  
Leaves glaucous. Yawd-  
appendages white.

Exp. to ...

Exp. to ... (D. 56.75)

11976 - 1 June 1935. Alje  
Co., Nev. Sagebrush desert  
just east of the base of  
the Sierra Canyon Mts. and  
just north of Cherry Creek  
and 63 road km. south-  
west of Lees Ferry.  
Rays 35-77, bright  
blue-lavender.

*Erigeron argentatus* A. Gray

*Erigeron argent*

(10)

33

11978 - 1 June, 1985. Nye  
Co. Nevada. Sandy sagebrush  
desert in White River Valley,  
ca 5 km west of Hot Creek Butte  
and ca 16 miles west -

- south-east of Sunnyside  
Twp. 6 N., R. 60 E. S. 15-22

Elev. ca 1600 m.

Flowers white with a  
yellow eye, small for  
the section, the limb  
only 3-5 mm wide.

*Cryptantha welshii*

R. Thorne & Higgins

*Cryptantha* <sup>welshii</sup> (10)

11979 1 June 1985

Nye Co., Nevada. Sandy  
sagebrush desert in White  
River Valley ca 5 km.  
west of Hot Creek Butte,  
and 16 road km west-  
southwest of Sunnyside.

Twp. 6 N., R. 60 E., S. 15-22  
Elev. ca 1600 m.

Herbage greenish. Flowers  
pink, slender, maturing  
to blue.

*Penstemon linearis* "longus"

*P. manifestus* (C) 6137

11980 2 June, 1985, Nye Co, Nevada  
Along the roadside in Atriplex  
- Larrea tridentata flats in  
the White River Valley ca  
7 km. northeast of Hot  
Springs Butte. and road  
key west of Sunnyside  
junction on Highway 518,  
Twp. 6 N., R. 6 E., S. 8  
Elev. ca. 1600 m.

Stems numerous, clustered on  
a stout taproot. Flowers  
pink-lavender, the distal  
half of the wings white.

Asclepias

215.7

11950 - 2 June 1985  
Nye Co., Nev. Along  
a sandy, alkaline low  
ridge in the desert,  
White River Valley,  
between Hot Creek Butte  
and Sunnyside. Twp.  
6 N., R. 61 E., S. 3. Elev.,  
ca. 1600m. Stems clustered  
on a short taproot. Flowers  
pink-lavender, the corolla  
white in the distal half.

*Astragalus toanus* M.E. Jones  
det. R. C. Barneby

6 N., 61 E., S. 3

*Astragalus* (10)

11941. 2 June, 1961.

Mye Co., Nevada.

same place as 11980.

Petals <sup>3-4</sup> white with fine  
dark purple spots, and  
occasionally <sup>green or</sup> tinged,  
lobes yellow-green  
glad, also tending to  
be greenish-yellow toward  
the tips.

*Fumaria albomarginata* S. Wats.

Francia

⑨ 21/2/22

11982 - 2 June 1985  
in Co. Hen. Same  
place as 1980  
Flowers 26-43, yellow

*Hymenopappus filitolicus* Hook.  
var. *maritimus* (Kuhn) Turner

*Hymenopappus* 10)



11983 - 2 June, 1985  
Nye Co., Nevada. Same  
place as 11950. Rays 12-20  
white or whitish above,  
tending to be dull  
in the cyane beneath.

Townsendia jonesii (Beaman,  
Reveal

Townsendia (3)

11952 2 L 255

11954 - 2 June, 1985

Mojo Co., Nevada, same

place as 11950

Rays 10-18, purple.

*Machaeranthera leucanthemifolia*

(Greene) Greene

*Machaeranthera*

(5)

11985 - 2 June, 1985, Hwy Co.,  
Canada, Lowland 11985.

Plants spreading by long,  
creeping roots. Stems  
erect or less erect at  
anthesis, prostrate  
in fruit. Perianth  
pale pinkish.

*Abroma* *nana* S. Wats.

*Abroma* 10

11986 - 2 June, 1985

~~11986~~ Lago Co., Nevada.

Same place as 11980.

Stems widely ascending  
or prostrate with  
upturned tips. Flowers  
pale yellow.

*Astragalus humistratus* A. Gray  
var. *humivagus* (Rydb.) Bo. 11985

*Astragalus* (8)

11787. 2 June, 1955

Pinal Co., Arizona.

Roadside weed in sandy  
soil of <sup>Six-Mile Flats</sup> ~~desert~~ <sup>dry</sup> ~~area~~  
ca 33 miles km.  
northwest of Phoenix.

Twp. 4 S., R. 62 E., S. 19

Elev. ca. 1400 m.

Plant is somewhat  
erect, but the  
larger plants have  
sprawling.

Petal white, wilting  
in the morning sun.

*Oenothera californica* S. Wats.

73274  
6

11988-3 June, 1985.

Lincoln Co., Nevada.

Sandy soil in gently  
sloping arid desert shrub  
community, Six Mile  
Flat, ca 33 road km  
northwest of Calico.

Twp 15, R. 22E, S. 1.

Shrub, ca. 2-3 m.

Flowers 3-5, pink

corolla.

*Stephanomeria exigua* Nutt.

*Stephanomeria*

(3)

11989 - 3 June, 1985 - Lincoln  
Co., Nevada. with sagebrush  
and scattered junipers  
on gravelly, sandy knolls  
in the desert. Maclean  
Valley Wash, ca 12. road  
km. northwest of Caliente.  
Twp. 35., R. 17 E., S. 22.  
Elev. ca. 1400m.

Plants varying from single  
stems and apparently  
biennial to evidently  
perennial, with several  
erect stems. Flowers  
white with a yellow eye,  
small for the section, the  
limb only 3-5.5 mm wide.  
*Cryptantha wolshii* R. Thorne & H. S. Gentry

*Cryptantha wolshii*

(10)

11990-3 June 1985

Linncoln Co., Nevada

Gravelly, sandy soil in  
pinyon-juniper woodland,  
ca 17 km. airline east of  
Caliente. Twp. 4 S., R.  
69 E., S. 7. Elev. ca 1800 m.

Stems loosely clustered,  
widely to strongly  
ascending. Leaves gray.  
= lower blue-violet,  
waxing to maroon by  
evening purple.

John Long

*Penstemon linarioides* A. Gray  
var. *coloratus* A. Gray

*Penstemon*





11991 - 3 June, 1985  
Lincoln Co., Nevada,

Same place as 11990.  
Stems clustered on a  
Taproot.

*Astragalus tetraapterus*

A. Gray. Det R. L. Barneby

*Astragalus* (4)

11992 - 3 June, 1985  
Lincoln Co., Nevada

Pinyon - juniper  
scrubland in the Cedar  
Range, ca 19 km. airline  
west of Salicete. Twp.  
4S, R. 6E, S. 24.

Elev. ca 1800 m.

Herbage glaucous.

Flowers bright

pink-purple, with

some variation to darker  
and lighter shading, but  
turning darker blue-violet in  
the press.

*Peristemon* *caninus* M. & S.

*Peristemon* *caninus*

1933 - 4 June, 1935. Lincoln  
Co., Nevada Sandy clay

said about white clay  
in a gulch  
about 2 mi. S. W. of  
Powers. Twp. 2 S., R. 68  
E., S. 10. Elev. ca. 1500 m.

Plants - 1 or 2 usually  
spreading by a creeping  
root. Flowers white,  
with yellow in the morning  
sun.

*Oenothera pallida* Lindl.  
var. *pallida*

✓

*Oenothera pallida* Lindl.

1199 4. 4 June, 1985

Pineville Co., Nevada,

Barley area in sagebrush  
about 2 km. east of

area. Temp. 25, R. 68 E.,  
S. 12. Elev. ca. 1500 m.

Plants appearing in  
and numerous, flowers  
short, red or reddish

leaves short, stout,  
pubescent, numerous  
flowers large and

very spreading or  
markedly spreading. Flowers  
white, with the petals  
the same color.

*Oenothera deltoides* Torr. & Fremont  
var. *Piperi* Munz

*Oe. deltoides* (4)

11995 - 4 June, 1954 Lincoln  
Co., Nevada. Low, bushy  
erect to slightly  
decumbent. 2-4 dm. tall.  
Twp. 20, R. 63 E,  
S. 12. Flowers white.

Flowers white, withering  
to pink in the morning  
sun.

*Camissonia boothii* (Dougl.) Raven  
subsp. *alyssoides* (Hook. & Arn.)  
Raven

—

*Camissonia boothii* (5)

11996 4 June 1985

Roadside pull-in <sup>Iron Co. Utah</sup>

sagebrush desert along

Utah Highway 56. ca 33

road km. east of the

Nevada state line.

Twp. 35S., R. 17W., S. 21.

Elev. ca 1500 m

Plants tap rooted, apparently

short-lived perennial.

Central stem very short,

stocky, and erect, or

scarcely developed. Lateral

stems prostrate or nearly

so, spreading and forming

a rosette. Flowers white,

withering pink.

2005



*Oenothera deltoides* Torr. & Freimont  
var. *pipera* Munz

*Oenothera deltoides* (5)

11997 9 June, 1985

Summit Co., Utah.

Wet sandstone and juniper  
on west side of river.

Salmon River, ca

3 mi. upstream from

~~Summit~~ ~~Utah~~ ca. 10 mi.

Tray

Unusual for the species in  
this area. It is usually

not so light blue to

white. It is usually

only inconspicuously

marked with whitish and

dark. It is found in water.

*Hackelia patens* (Nutt.) I. M. Johnston

var. *harrisonii* J. Gentry

*Hackelia patens* (5)



4798. 9 June 1950.  
summit Co. Utah. Rather  
sandy soil associated  
with calcareous sandstone  
in sandstone junction zone  
ca. 3' from north  
Coalmile.

Frug.  
Stems prostrate.  
Flowers white, wilting  
in the evening sun.  
Rough, hairy  
~~leaves~~ creeping along  
ground.

*Oenothera pallida* Lindl.  
var. *latifolia* Rydb.

11999 A.C., David Snyder,  
and Lorraine Abbiate-  
-Caruso 3 May, 1986  
Sussex Co., New Jersey,

Wet seepage areas and  
streambanks in hemlock-  
hardwood-white pine woods.  
Elev. ca. 300 m.

Cornus very deep-seated. ✓

Petals yellow, with variably  
orange to orange-red guide  
lines toward the base. ✓

*Claytonia virginica* L. var. *virginica*  
one phase called *hammondiae*

*Claytonia* (2) *Kalmianaceae*

11. 10. 1901

12. 10. 1901

13. 10. 1901

14. 10. 1901

15. 10. 1901

16. 10. 1901

17. 10. 1901

18. 10. 1901

13. 10. 1901

14. 10. 1901

15. 10. 1901

16. 10. 1901

17. 10. 1901

18. 10. 1901

19. 10. 1901

Cherry 5. 'pt

388.0

" summer

75.0

Cherry 5. 'pt

" summer

87.0

Cherry 5. 'pt

4.0

pt.

4.0

for the summer

4.89

Motor 5. 'pt

23.76

2 June

8525.5

pt.

49.0

Summer 5. 'pt

6.1.1

Summer

Motor 5. 'pt

20.0

3 June

8.1.1

pt.

725.0

Summer

6.1.1

Motor 5. 'pt

678

54.

Motel Saltillo

22.00

4 June - L. Carls

Motel Saltillo

8 11.00

15.00

Motel Saltillo

9 21.00

18.50

9 June - L. Carls

Motel Saltillo

15.00

7.00

8.00

7.00

Motel at L. Carls

24.43

May, could  
Motel St George 25.99

2 May - built G. 745.5

jet 86.5

coll. of 88.1

sum jet. 498.9

Paverty jet 516.75

Mt + 528.9

Nixon spgs. 7539.7

---

27 May

1. 1.4

2. 1.4

3. 1.4

jet. 551.4

jet mca. Nixon spgs 556.9

jet to Lake City

St. George 1.6

get St George. 23.99

26 May - Lu St G. 7728.6

arr. Provo.  
Motel Springville 25.00

29 May - Provo-Sp.  
Motel Springville 25.00

30 May

Lu Provo-Springville 8023.2

Delta 8121.7

Hawaii 8209.7

Ely 8273.3

Motel 23.54

31 May - Lu Ely 8279.3

get = 318 302.4

Cresent 330.0

Cresent again 344.8

get for 1st 63.0

3 May, L. St. G.	7055.2
Vero	7073.0
Jct.	795
Jct. Grass rd.	86.4
SG	7134.5
Jct.	7167.1

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24 May L. St G.	7193.5
Forest line	245.5

to Cedar City	7337.3
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---

meal in Cedar	19.55
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Dinner with Niles	19.18
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25 May L. Cedar	7337.3
-----------------	--------

Enter Kans Co	7360.0
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Jct. 40.00	67.9
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Summit, 11/10	5
---------------	---

to L. Cedar	69.75
-------------	-------

pt. of mt.	3923
------------	------

highway pt.	701.0
-------------	-------



Dennis Breedlove

Hert. Sept 7 Bort.

Cal. Acad

Gold. Lg. vs.

S.F

94118

213-825-3619

Shirley Warner

Y-Logan Price 5.569

Motel ~~Brighton~~ Price 15.00

9 May. ~~Brighton City~~ Price 5720

Motel 15.00

White Gas. Price 11.94

Brighton 100.50

May 10 - 100.50

10 May - Price 5757

~~2~~ Lt George motel 23.99

11 May - Lt George 6030.  
(enter) 6031.2

18, 17, 18, 16, 16, 20, 20

- 6038.4

Wolf Hole Mt. fat. 6034, 6

May 12 Acquit 38.54

for 2 runs

~~16/6/2~~  
St. George

Jct 6190.4

14 May

251.1

Kanab 6190.4

Jct 6190.4

Kanab

Motel

18.79

15 May. Kanab 6328.5 miles

Service jct

51.79

6336.11 Fredonia

6336.11 Mohave

22.00 Sh Lake

6390.85 - Lanes. Legume

6401.5 - Lanes. Legume

Jump on knolls ✓  
Pickup Canyon ✓  
Kanab Point ✓  
Powell plateau  
De Motte park ✓

Pakoon spgs ✓	✓ Little Jackson Vell.
Olak knolls ✓	✓ Antelope knoll
Last chance Cany. ✓	✓ The Grand Stair
Poverty spgs. ✓	✓ Outcrops <sup>Draw</sup> spgs.
Poverty knoll ✓	Sullivan Draw, T.
James Hill o	Mustang knoll ✓
St. George Cany. ✓	Wolf Hole Mt. ✓
Sullivan Draw, S.	W. H. M. East
Little tanks ✓	Cassin wall canyon ✓
Russell spgs. ✓	Cap poverty ✓
Moran knoll ✓	Purgatory C. ✓
Flat knoll ✓	12 Land Mt. o
	Yellow Horse P. ✓
	Pack Canyon

3 May. W.P. 3284.1

Tolls - Delaware Water Gap .25

Oil - 2.30

.50

Motel 19.35

4 May - Waseon, Ohio 3901.3

Tolls Ohio Pike .70

Indiana Pike 4.25

Illinois .30

Motel - Lincoln, Neb. 19.30

5 May, Lincoln, Neb. 4627.9

Motel - Rock Spgs. w. 22.88

6 May - Rock Spgs. w. 5338.

Motel - Logan 23.87

7 May - Logan - 5542

Motel - Logan 23.87

Mt. Turnbull NE  
NW, SE

Mt. Logan

Tuckup Canyon

Heaton Knolls

Vulcan's Throne

Littlefield ✓

Carr Spgs. ✓

Lost spg Mt. ✓

Colorado City ✓

Fredonia ✓

Shinarump ✓

House Rock Spg ✓

Jacob's Lake ✓

Big Spgs. ✓

Map Canyon ✓

12,000. 3 May, 1986. J. J.

David Taylor & Lorraine Abbate.

Corr. 1980. Sussex Co., N.J.

Sunrise Mt., on Kittatinny Mt.

elev. ca 500 m. Limestone

substrate, in meadow.

0 are weeds. Plants 6-15 dm,

Colonial, not much branched.

Fls white.

Amelanchier (2)

May 1986

Welsh 801-378-2289

Meece 801-277 0701

4478 Zarahemla Drive

SL-C 84124

Barthman 801-750 1000

X 1504

John 714-773-3587

516 Mountain

Placentia, Calif.

714-773 2246 office



*Dicentra canadensis*

1 leaf - blue-green  
glaucescens

" *Dracopis* 2 lvs.

yellow-green, not glaucescens

3 May 86

17200 - 17400 miles

~~1712~~

Niura

2

